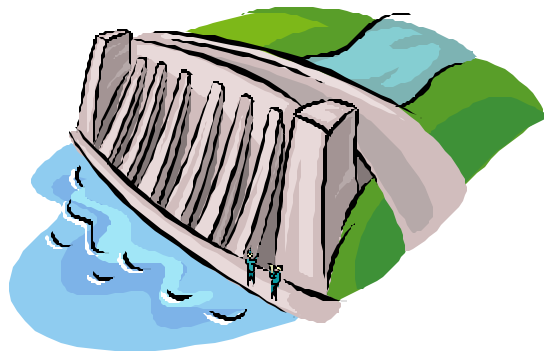


Emergency Evacuation Plan
for
Dam Failure and Flooding
SAVANNAH RIVER DAMS



Columbia County, Georgia
June 2001

Prepared by:

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Maps Data Provided by: United States Army Corps of Engineers, Savannah District
Geographical Data & Map Provided by: Columbia County Geographic Information Systems

PREFACE

The tragic dam failure at Toccoa in 1977 sparked public concern about the safety of dams in Georgia and across the nation. The Georgia General Assembly reacted by passing the Georgia Safe Dams Act early in its 1978 session. This act empowered the State Soil and Water Conservation Committee to inventory non-federal dams in Georgia and authorized the Georgia Department of Natural Resources to act when an unsafe dam is discovered which poses a threat to human life. This act has been amended several times by the General Assembly. The only significant changes were the de-regulation of Category II dams (which are those with no loss of life potential) and a lowering of spillway design criteria for Category I dams (loss of life potential).

At the national level, the federal government developed and published the Federal Guidelines for Dam Safety in 1979. This publication established criteria for the construction of new federally owned dams and modification of existing dams.

The Georgia Emergency Management Agency, in conjunction with the county organizations concerned, initiated a program in March of 1982 to develop evacuation plans for affected areas downstream from major dams in the state. These larger dams are primarily federally owned or owned by Georgia Power Company.

Due to the development of new subdivisions and numerous other changes in Columbia County during the past six years, this plan has been completely revised and supersedes the previously distributed version, dated July 1995, which should be destroyed.

This plan should be used in conjunction with the Columbia County Emergency Operations Plan, dated August 2000.

DISTRIBUTION LIST

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Department of Family & Children Services	1
Linda Joesbury	
Roads & Bridges	1
Tom Holloway	
News Media	1
(Columbia News Times) Bill Kirby	

TOTAL	66
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BASIC PLAN

EMERGENCY EVACUATION PLAN FOR DAM FAILURE AND FLOODING SAVANNAH RIVER DAMS

I. PURPOSE:

The purpose of this plan is to establish procedures for warning, evacuating, and sheltering persons who would be endangered in the event of the individual failure or combined failures of Hartwell, Richard B. Russell, or J. Strom Thurmond Dams. It also addresses similar emergency response actions which might be required in the event of flooding, caused by emergency releases from J. Strom Thurmond Dam spillway, turbines, and sluices. The plan is designed to accomplish these functions with minimum confusion and maximum speed.

II. SCOPE:

- A. This plan is regional in application and pertains to possible failure or high discharge from Savannah River dams located along the Georgia-South Carolina border north of Augusta, Georgia. It describes actions necessary to accomplish the warning and evacuation of areas that would be inundated in Columbia County, Georgia. A total population of approximately 13,110 is at risk in the identified inundation areas shown in Appendix B. This plan addresses emergency actions for the State of Georgia only.
- B. This plan has been developed within the authority and guidance contained in the Georgia Emergency Operations Plan (EOP) which governs responsibility and actions of state agencies in an emergency or disaster situation. At the local level, the Columbia County Emergency Operations Plan (EOP) is the overall response plan for all types of disasters. The concepts, practices, and procedures contained in those plans also apply to a dam break or flooding related to an emergency release from a dam. This plan emphasizes unique procedures necessary to respond to a dam emergency situation. The plan is designed to:
 - 1. Establish warning procedures.
 - 2. Outline evacuation procedures.
 - 3. Identify evacuation routes to be used.
 - 4. Identify reception centers and shelters to be activated for the care of evacuees.
 - 5. Identify procedures for the security of the perimeter and the interior of the affected area during and after evacuation.
 - 6. Identify procedures for allowing evacuees to return to their homes.
 - 7. Assign specific functions and responsibilities to state and local emergency response agencies and other organizations.

III. AUTHORITIES / REFERENCES

A. Federal:

1. Federal Guidelines for Dam Safety, June 1979.
2. Savannah River Emergency Action Plan (Volume I), U.S. Army Corps of Engineers (CoE), Savannah District, December 1997, with Change #2 July 17, 2000

B. State:

1. Georgia Safe Dams Act of 1978, as amended.
2. Georgia Emergency Management Act of 1981.
3. Georgia Emergency Operations Plan, January 2000.
4. State of Georgia Warning Plan, April 1993.
5. Emergency Alert Procedures for the Georgia Emergency Alert System (EAS), Revised January 1998.

C. Local:

1. Columbia County Resolution, August 2000
2. Columbia County Emergency Operations Plan, August 2000

IV. SITUATION:

- A. The J. Strom Thurmond Dam is located approximately 13 (RIVER) miles upstream from the Stevens Creek Hydro-electric plant. The dam is concrete gravity type with earth embankments at either end and gate-controlled spillway. The maximum height of the concrete section, foundation to roadway, is 200 feet. The concrete section is 2,282 feet long and the total length is 5,680 feet or just over one mile. Maximum reservoir capacity is 2,900,000 acre-feet at flood control pool.
- B. The Hartwell Dam is located approximately 80 (RIVER) miles above the Stevens Creek Hydro-electric plant. The dam is constructed similarly to the J. Strom Thurmond Dam. The maximum height of the concrete section is 204 feet. The concrete section is 1,900 feet long, and the total length, including earth embankments and saddle dike is 17,852 feet or about 3.4 miles. Maximum reservoir capacity is 2,842,700 acre-feet at flood control pool.
- C. The Richard B. Russell Dam is located approximately 50 (RIVER) miles above the Stevens Creek Hydro-electric plant. The dam is also similar to the J. Strom Thurmond Dam. The maximum height of the concrete section is 210 feet. The concrete section is 1,883.5 feet long, and the total length is 4,523.5 feet or almost one mile. Maximum reservoir capacity is 1,166,166 acre-feet at flood control pool.

- D. The probability of the failure of any of these dams with or without warning is extremely remote. Any unsafe condition or situation would normally be detected early and remedial action initiated as appropriate. If a controlled release from a spillway should be required or if any possibility of dam failure was indicated, state and local Emergency Management organization would be immediately advised by the Savannah District Emergency Division.

It should be noted that a failure of either Russell or Hartwell Dam would require an immediate emergency release from the down stream dam(s). This procedure would help preclude subsequent failure(s) due to overtopping. Such an emergency release from J. Strom Thurmond Dam would result in flooding in Columbia County almost as severe as from failure of the dam.

V. CONCEPT OF OPERATION:

To assure appropriate and prompt response to an emergency situation at any of the three dams, the U.S. Army Corps of Engineers SREAP, Appendix C, Operational Procedures for Emergencies, has classified potential emergency situation or conditions according to the relative urgency as follows:

Type 1: A slowly developing condition.
Type 2: A rapidly developing condition.

The Power Project Manager or designated representative will, in the event of any emergency, take immediate action necessary to prevent failure and to prevent or minimize loss of life and property. He/she will initiate emergency notification procedures base on conditions as follows:

- A. In a **Type 1 slowly developing condition**, the Power Project Manager will notify Emergency Management Division of the Savannah District CoE, which will notify the Georgia Emergency Management Agency (GEMA) and local officials in accordance with Appendix B, Savannah River Emergency Action Plan, Savannah District, CoE (Ref A 2 paragraph III above). GEMA will be responsible for keeping local jurisdictions informed of the situation and will coordinate local (county) emergency operations as required.
- B. In a **Type 2 under a rapidly developing condition**, the Power Project Manager or designated representative will immediately notify appropriate local authorities to implement their evacuation plans. GEMA will be notified as soon as possible by the method specified for a Type 1 condition.

VI. RESPONSIBILITIES:

A. Local Jurisdictions.

Columbia County
See Annex I – Pages 10 - 13.

B. State Agencies with Local Office / Representation.

1. Georgia State Patrol, Troop F. Assist in warning, traffic control, and search and rescue operations in coordination with local law enforcement agencies.
2. American Red Cross/Augusta Chapter and the Department of Family and Children Services. Provide disaster relief functions in accordance with state and local plans.

C. CoE, Savannah District.

Provide information and warning relative to actual or potential emergencies at the Savannah River dams in accordance with Section V of this plan.

VII. EMERGENCY OPERATIONS -- WARNING AND EVACUATION:

A. General.

Local warning and evacuation operations will be conducted by Columbia County and will be carried out in accordance with procedures established in Annex I of this plan. The following guidelines apply to federal, state and local actions in an emergency situation.

1. In a **Type 1 slowly developing condition**, the situation will be closely monitored by local emergency response personnel and GEMA. The State Emergency Operations Center (EOC) will be activated as required. GEMA will maintain close contact with the Emergency Operations Manager at Savannah District CoE or his/her alternate as listed:

Judith K. Patterson

Office (912) 652-5431
Home (912) 354-9962
Pager 1-800-443-7243 ID # 033-112
Cell Phone (912) 658-3974

Mickey Fountain

Office (912) 652-5431
Home (912) 727-2480
Pager 1-800-443-7243 ID # 047-468
Cell Phone (912) 429-3229

Evacuation may be recommended or ordered by local officials as a precautionary measure if the situation continues to deteriorate.

2. **If reports from the Savannah District Corps of Engineers indicate imminent dam failure or emergency release, evacuation should be ordered immediately for affected areas shown on inundation maps (Appendix A).**
3. In a **Type 2 rapidly developing condition**, warning will be passed to local jurisdictions immediately by the Power Project Manager or designated representative, with follow-up notification to GEMA through the Savannah District CoE Emergency Operations Center. State and local Emergency Operations Centers will be fully activated.

Due to the extremely limited time available for dissemination of warning under these conditions, the first indication of an emergency for many residents in the danger area may be rapidly rising water.

This is particularly true from 0 to 10 miles below the J. Strom Thurmond Dam. Under these circumstances, endangered persons should move to high ground immediately and await rescue. Times available for evacuation at various locations along the river are shown on the inundation maps (Appendix B) and summarized in Appendix A, Arrival and Peak Time for Flood Water.

B. Authority for Emergency Actions.

Authority for Emergency Actions, including ordered evacuation, is contained in the Executive Order to the Georgia Emergency Operations Plan for the state and is cited in the appropriate annex of this plan.

C. 24 Hour Warning Points.

1. State – GEMA Communications Center - (404) 635-7000
2. Columbia County –9-1-1 Communications Center - (706) 541-2800

VIII. POST EMERGENCY OPERATIONS:

- A. Time required for flood waters to recede to normal levels after dam failure will vary depending upon distance downstream. This time can be estimated for a given location (river miles) by adding 48 hours to the peak time shown on the inundation maps (Appendix B).
- B. The situation will be monitored by state and local authorities in order to determine when residents may safely re-enter areas which were flooded. Normally, clearance for re-entry will be issued by GEMA in coordination with local governments based on recommendations from the Department of Human Resources (DHR), the Department of Natural Resources (DNR), and information from the Savannah District CoE. Instructions concerning re-entry will be broadcast over the EAS station for the area and disseminated by local officials as required. These advisories will include safety and health information provided by state and local authorities.
- C. Damage assessment and determination of disaster/emergency declaration eligibility will be in accordance with the Georgia Emergency Operations Plan, GEMA SOP 1-4 and other appropriate state and federal regulations.

IX. PUBLIC INFORMATION:

- A. General.
 - 1. During a **Type 1 slowly developing condition when dam failure is possible**, public information will be provided through news releases by the Savannah District CoE. Following are sample news releases:

News Release

Slowly Developing Failure Condition at Hartwell/Richard B. Russell/J. Strom Thurmond Dam

Headlines:

Army Engineers Drawdown HARTWELL/RICHARD B. RUSSELL/J. STROM THURMOND RESERVOIRS, Savannah River

Text:

The Savannah District, U.S. Army Corps of Engineers announced at *(time)* today it had begun a controlled drawdown of Hartwell/Richard B. Russell/J. Strom Thurmond Reservoirs. A Corps spokesperson said the lake levels were being lowered as a precautionary measure due to indications of *(general information)*.

The controlled drawdown is an effort to relieve pressure on the dam and prevent the sudden and uncontrolled release of water should a break occur in the structure. A further objective of the controlled drawdown is to evacuate as much storage as possible in the J. Strom Thurmond Reservoir to prevent its failure should a failure at Hartwell or Richard B. Russell Dam occur. Water is being released through spillway gates and turbines at both projects at a rate that may increase downstream river stages above normal flood levels, the spokesperson said.

Residents of low-lying areas should take appropriate steps including moving cattle to higher ground and evacuating boats moored on Hartwell/Richard B. Russell/J. Strom Thurmond lakes and downstream.

The Corps of Engineers is attempting to determine the extent of the problem, and additional information will be released as promptly as possible.

2. During a **Type 2 rapidly developing condition when dam failure is possible**, public information will be provided by news releases by CoE and supplemented by coordinated emergency instructions to the public by local jurisdictions and the GEMA, Public Affairs Office. Following is a sample news release:

News Release

Rapidly Developing Failure Condition at J. Strom Thurmond

Headline:

Army Engineers announce J. Strom Thurmond Dam failure is imminent

Text:

A portion of J. Strom Thurmond Dam is in imminent danger of failure according to an emergency statement released at (time). The dam is located on the Savannah River approximately 22 miles upstream of the City of Augusta, Georgia.

In an effort to prevent complete failure of the dam, water is being released through the spillway at a rate of approximately (indicate general flow conditions), a U.S. Army Corps of Engineers spokesperson said.

Emergency Management authorities have been notified and are assisting in the evacuation of people from areas expected to flood. Residents from J. Strom Thurmond Dam through Augusta, Georgia are advised to listen to Emergency Management broadcast and act accordingly. Residents in low-lying areas everywhere along the Savannah River should immediately move to higher ground.

The Corps spokesperson urged residents to be alert for further announcements.

Emergency announcements will be made via broadcast media by **activation of the Emergency Alert System (EAS).**

- B. Official statements and releases to the media will be in accordance with this plan, the current Columbia County Emergency Operations Plan and the Georgia Emergency Operations Plan.
- C. Use of the Emergency Alert System will be in accordance with this plan and the Georgia Emergency Alert System Plan.

X. REVIEW / REVISION:

This plan will be reviewed annually and revised as necessary.

XI. EFFECTIVE DATE:

This plan is effective immediately and will be activated upon the direction of the heads of local government.

ATTEST: This _____ day of _____, 2001,

Clerk of Commission

Chairman, Columbia County Board of Commissioners

ATTEST: This _____ day of _____, 2001,

Mayor, City of Grovetown

ATTEST: This _____ day of _____, 2001,

Mayor, City of Harlem

ANNEX 1

EMERGENCY EVAUCATION PLAN FOR DAM FAILURE & FLOODING SAVANNAH RIVER DAMS

I. PURPOSE:

The purpose of this Annex is to provide for the performance of functions or actions specified in the Basic Plan and apply only to Columbia County.

II. SCOPE:

While this plan is regional in its application, initial reaction to an emergency situation is a Columbia County responsibility. Specific responsibilities and action delegated to Columbia County officials and agencies are addressed in this Annex.

III. AUTHORITIES / REFERENCES:

- A. Columbia County Resolution, dated August 2000
- B. Columbia County Emergency Operations Plan, dated August 2000

IV. SITUATION:

See Basic Plan, Section IV – Pages 2 & 3.

V. CONCEPT OF OPERATIONS:

- A. General Considerations – See Basic Plan, Section V – Pages 3 & 4.

- B. Local Procedures.

1. The Corps of Engineers (CoE) determines the type of incident (Type 1 or 2) and notifies the Georgia Emergency Management Agency (GEMA) and the Columbia County Emergency Management Agency. GEMA will maintain liaison with the CoE and will be responsible for keeping the Columbia County Emergency Operations Center informed on planning and emergency conditions. Columbia County EMA will coordinate all activities involving actual operations, including warning and evacuations.

2. Evacuation will be implemented on advice from the CoE based on progressive or instantaneous failure of the dam(s).
3. Columbia County EMA will conduct the operations, supported by GEMA assistance, as needed.
4. GEMA will be the coordinator between all state agencies and local government operations, and will establish liaison with the Federal Emergency Management Agency (FEMA) and the CoE.
5. Upon receipt of information of a Type 1 or 2 incident, the EOC will be activated. The EOC will direct and coordinate the execution of this plan. All actions to the extent necessary will be taken with the support and cooperation of all local government agencies.
6. Each agency shall retain its autonomy during operations.

V. RESPONSIBILITIES:

A. Columbia County Emergency Management Agency

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 5, 7, 12, 17, 19, 20, & 21.

B. Columbia County Sheriff's Office

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 1, 2, 13, 15, 16, & 17.

C. Cities of Harlem and Grovetown Police Departments

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 13, 15, 16, & 17.

D. Appling, Leah, Grovetown, Harlem, Martinez, and Winfield Fire Departments

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 4, 9, & 19.

E. Animal Control

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 14.

F. Board of Education

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 1, 6, & 11.

G. Columbia County Health Department

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Number 3.

H. Emergency Medical Services

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 1 & 8.

I. Columbia County Public Works & Engineering

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Number 3.

J. Department of Family & Children Services

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 6 & 11.

K. Red Cross – Augusta Chapter

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Numbers 6 & 8.

L. Tax Assessor's Office

See Columbia County Emergency Operations Plan, dated August 2000, – Basic Plan, Emergency Support Function (ESF) Number 21.

VII. WARNING AND EVACUATION

A. General Considerations

See Basic Plan, Section VII – Pages 4 & 5.

B. Local Procedures.

1. WARNING:

Warning will be conducted in accordance with the Columbia County Emergency Operations Plan Communications & Warning Emergency Support Function (ESF) # 2 and Appendices D-1, D-2, & D-3.

All methods of notification will be utilized to warn to public, including: Emergency Alert System, NOAA Alert Radio, 9-1-1 “Communicator” System, loud speakers on emergency response vehicles, telephone, pager, e-mail, and door-to-door.

2. EVACUATION:

- a. Evacuation procedures will be in accordance with the Columbia County Emergency Operations Plan ESF # 16.

- b. **Arrival and peak time for floodwater** is shown in Appendix A.

Areas to be evacuated are shown on inundation maps in Appendix B.

Population to be moved by zip code, street boundaries, and subdivisions are shown at Tab A through Tab C to this Annex.

All affected areas are east of Highway 28 (Fury’s Ferry Road) and north of the eastern portion of Hardy McManus Road. The total estimated number of persons living in the affected area is 6,544. The entire area is within ZIP Codes 30907 and 30809.

- c. **Critical Facilities** affected are listed at Tab D – Page 20.
- d. **Evacuation Routes and Reception Centers** are at Tab E – Page 21.
- e. **Shelter locations** are shown at Tab F – Page 22.

VIII. POST EMERGENCY OPERATIONS

See Basic Plan, Section VIII – Page 6

IX. PUBLIC INFORMATION

See Basic Plan, Section IX - Pages 6 – 8

X. REVIEW / REVISION

See Basic Plan, Section X – Page 8

XI. EFFECTIVE DATE

This Annex is effective immediately upon signing of the Basic Plan by the heads of local government.

TAB A

ESTIMATED POPULATION TO BE RELOCATED OR EVACUATED

Approximately 6,544 people in the affected area would require relocation/evacuation.

Persons to be evacuated are located in some of the most densely populated areas of Columbia and all live in the confines of ZIP Codes 30907 and 30809. The areas affected are located east of Highway 28 and north of Hardy McManus Road.

Most evacuation studies indicate that, on the average, only about 40% or less of the population, which evacuates an area during a disaster, will utilize designated shelter facilities. Shelter facilities for this plan will accommodate 40% of the affected population, or a total of about 2,618 persons.

Additionally, since there are approximately 1,000 residents with the 30907 ZIP Code living in Richmond County, those residents are addressed in the Richmond County plan. All others are addressed in this plan.

TOTAL EVACUEES	6,544
40% EXPECTED TO USE PUBLIC SHELTER	2,618

TAB B

STREET BOUNDARIES AND OTHER AREAS AFFECTED

Street Boundaries:

The following boundaries use the Savannah River, J. Strom Thurmond Dam at Clark's Hill and the Columbia/Richmond County line as the north, east, and south limit:

1. East and North of Georgia State Highway 28 (Fury's Ferry Road) from Vaughn Road to the State line.
2. North of Evans-to-Locks Road from Highway 28 to the Evans Locks at the Savannah Rapids Pavilion, on the Savannah River.
3. All points east of Stevens Creek Road from the South Carolina Electric & Gas Hydro Electric Plant to the Richmond County line.
4. North of North Belair Road from Deerwood Lane to Georgia Highway 28 (Fury's Ferry Road).
5. East of Georgia Highway 104 from Hardy McManus Road to the intersection of State Highways 104, 221, and 150 (Pollard's Corner).
6. South of Georgia State Highway 221 from J. Strom Thurmond Dam to the intersection of Georgia State Highways 104 (Washington Road) and 150 (Pollard's Corner).

Other Affected Areas:

1. Reed Creek at Stevens Creek Road. 1,000 feet to the north and 1,000 feet to the south of Reed Creek.
2. Point Comfort Road. From the north end of Point Comfort Road at its intersection with Blackstone Camp Road 2,000 feet (approximately .4 mile) south.
3. Reed Creek at Georgia Highway 28 (Fury's Ferry Road) 500 feet south and 500 feet north of Reed Creek.
4. Jones Creek at Georgia Highway 28 (Fury's Ferry Road). 800 feet south and 800 feet north of Jones Creek.
5. Hardy McManus Road at Betty's Branch. On Hardy McManus Road $\frac{3}{4}$ mile west of Georgia Highway 28, continuing 4,000 feet west (approximately .8 miles) to Halali Farm Road.
6. Georgia State Highway 104 at Kiokee Creek.
7. Georgia State Highway 104 at Little Kiokee Creek.

ROADS & SUBDIVISIONS AFFECTED

ROAD NAME

SUBDIVISION / LOCATION

ASHWOOD DRIVE	RIVER CHASE S/D, OFF RIVERSIDE DRIVE; OFF FURYS FERRY ROAD
RIVERSIDE DRIVE	RIVER CHASE S/D, OFF FURYS FERRY RD,JUST SOUTH OF SAV. RIVER
WOODRUFF WAY	IN WOODRUFF LANDING, OFF HARDY MCMANUS RD, WEST OF RR TRKS
MCMANUS COURT	IN WOODRUFF LANDING, OFF WOODRUFF WAY, OFFHARDY MCMANUS
WOODRUFF COURT	IN WOODRUFF LANDING, OFF WOODRUFF WAY, OFF HARDY MCMANUS
HARDY LAKE ROAD	OFF HARDY MCMANUS ROAD; WEST OF RAILROAD TRACKS
HARDY MCMANUS ROAD	FROM WASHINGTON RD (W. OF SILVERLAKE S/D) TO FURYS FERRY RD
FOX BRUSH DRIVE	BRIDLEWOOD S/D; OFF FOXHOUND DRIVE, OFF SADDLE HORN DRIVE
NATIONAL COURT	IN WEST LAKE S/D, OFF WEST LAKE DRIVE, EAST OF FOXFIRE PLACE
STEVENS COURT	IN STEVENS POINTE S/D, OFF STEVENS CROSSING, OFF STEVENS WAY
STEVENS CROSSING	IN STEVENS POINTE S/D, OFF STEVENS WAY, OFF STEVENS CREEK RD
HASTINGS PLACE	IN CAMBRIDGE S/D, OFF SAXTON ROAD; OFF CAMBRIDGE WAY
CAMBRIDGE WAY	IN CAMBRIDGE S/D, OFF WATERVALE ROAD;OFF STEVENS CREEK RD
DUNES DRIVE	IN SAINT ANDREWS S/D, OFF KEMPER DRIVE,OFF EVANS TO LOCKS RD
IHNEN COURT	IN BARRINGTON S/D, OFF GRANITE WAY, OFF STEVENS CREEK ROAD
GRANDERSON ROAD	OFF WASHINGTON RD, WEST OF MCCLADDIE DR, WEST OF TUBMAN RD
LINDER MCCURDY ROAD	OFF HWY 150/221; NORTH OF BURNS ROAD; NEAR S.C. BORDER
WASHINGTON ROAD	HIGHWAY 47; FROM LINCOLN COUNTY TO POLLARD'S CORNER
SCOTTS FERRY ROAD	FROM APPLING TO POLLARD'S CORNER (HWY 47,221)
BOWEN ROAD	OFF TUBMAN RD; BETW LOUISVILLE ROAD & KIOKEE CREEK BRIDGE
TUBMAN ROAD	FROM HWY 47/221 TO WASHINGTON RD;WEST OF WINDMILL PLANT.
OLD WASHINGTON ROAD	FROM TUBMAN RD TO WASHINGTON RD;WEST OF WINDMILL PLANTAT.
SUMMIT RIDGE ROAD	OFF OLD WASHINGTON RD, OFF WASHINGTON RD; E. OF TUBMAN RD
BURKS MOUNTAIN ROAD	OFF WASHINGTON RD,E. OF POLLARDS CORNER,NEAR ROSEMONT RD
ROSEMONT ROAD	OFF WASHINGTON RD;W. OF TUBMAN RD;EAST OF POLLARD'S CORNER
GEORGIA AVENUE	OFF N. TUBMAN RD, OFF WASHINGTON RD; W. OF WINDMILL PLANTATI
POINT COMFORT ROAD	FROM FURYS FERRY RD TO POINT COMFORT RD; OPP. FIRE STATION
DARTMORE COURT	IN RIVERSHYRE S/D, OFF OAKTON TRAIL, OFF RIVERSHYRE DRIVE
VILLAGE COURT	RIVERSHYRE S/D, OFF RIVERSHYRE DRIVE; OFF HARDY MCMANUS ROAD
WALTONS PASS	IN WALTON WOODS; OFF HARDY MCMANUS RD,EAST OF HALALI FARM RD
SEVERN DRIVE	RIVERSHYRE S/D, OFF RIVERSHYRE DRIVE; OFF HARDY MCMANUS RD
RIVERMONT DRIVE	IN RIVERMONT S/D,OFF HWY 28,.5 MILES SOUTH OF SAVANNAH RIVER
RIVER LANE	IN RIVERMONT S/D,OFF RIVERMONT DR,OFF HWY 28(FURYS FERRY RD)
AYLESBURY DRIVE	IN STRATFORD S/D, OFF HDY MCMANUS ROAD, W. OF RIVERSHYRE S/D
GLASTONBURY DRIVE	IN STRATFORD S/D, OFF AYLESBURY DRIVE, OFF HARDY MCMANUS RD
CULBREATH DRIVE	OFF HIGHWAY 28; JUST SOUTH OF THE SAVANNAH RIVER
RIVERSHYRE DRIVE	RIVERSHYRE S/D, OFF HARDY MCMANUS ROAD; WEST OF R.R. TRACKS
EDENTON TRAIL	RIVERSHYRE S/D, OFF HARDY MCMANUS ROAD; WEST OF R.R. TRACKS
OAKTON TRAIL	IN RIVERSHYRE S/D, OFF RIVERSHYRE DR, NORTH OF PARKSIDE TRAIL
OAKTON COURT	IN RIVERSHYRE S/D, OFF OAKTON TRAIL, OFF RIVERSHYRE DRIVE
MIDFORD COURT	RIVERSHYRE S/D, OFF RIVERSHYRE DRIVE; OFF HARDY MCMANUS RD
MULLIKIN ROAD	OFF HIGHWAY 28, OPPOSITE OF NORTH BELAIR ROAD INTERSECTION
HUNTING CHASE	IN BRIDLEWOOD S/D, OFF QUINN DRIVE; OFF CHASE ROAD

SADDLE HORN DRIVE	IN BRIDLEWOOD 3 S/D, OFF HUNTING CHASE, OFF QUINN DRIVE
FOXHOUND DRIVE	BRIDLEWOOD S/D; OFF SADDLE HORN DRIVE, OFF HUNTING CHASE
BIT COURT	IN BRIDLEWOOD 3 S/D, OFF SADDLE HORN DR, OFF HUNTING CHASE
QUINN DRIVE	CONNECTOR RD FROM MULLIKIN RD TO QUINN DR (BRIDLEWOOD S/D)
QUINN COURT	IN BRIDLEWOOD S/D, OFF QUINN DRIVE, OFF CHASE ROAD
CHASE ROAD	IN BRIDLEWOOD S/D, OFF BRIDLEWOOD TRAIL; OFF FURYS FERRY RD
BRANDYWINE DRIVE	IN BRANDYWINE S/D, OFF HEREFORD FARM RD, WEST OF BLANCHARD RD
HEREFORD FARM ROAD	FROM BELAIR ROAD (NORTH OF OWENS ROAD) TO COLUMBIA ROAD
EVANS TO LOCKS ROAD	FROM WASHINGTON RD TO FURYS FERRY RD TO SAVANNAH RAPIDS PAV.
RHODES HILL COURT	IN RHODES HILL S/D, OFF RHODES HILL DR, OFF STEVENS CREEK RD
RHODES HILL DRIVE	RHODES HILL; RUNS FROM STEVENS CREEK RD TO EVANS TO LOCKS RD
SAPPHIRE PLACE	IN WEST LAKE 7, OFF SAPPHIRE DRIVE; OFF PEBBLE BEACH DRIVE
SAPPHIRE DRIVE	IN WEST LAKE S/D, OFF PEBBLE BEACH DR, SOUTH OF INVERNESS WAY
MUIRFIELD COURT	IN BELGLADE S/D, OFF BELGLADE ROAD, OFF OLD BELAIR ROAD
BIRKDALE COURT	IN WEST LAKE S/D, OFF SAPPHIRE DRIVE, OFF PEBBLE BEACH DRIVE
SHOAL CREEK COURT	IN WEST LAKE S/D, OFF MEDINAH DRIVE; OFF INVERNESS WAY
MEDINAH DRIVE	IN WEST LAKE S/D, OFF INVERNESS WAY; WEST OF CYPRESS POINT DR
PEBBLE BEACH DRIVE	IN WEST LAKE S/D, FROM SAINT ANDREWS WAY TO WEST LAKE DRIVE
LINKS LANE	IN WEST LAKE S/D, OFF FOXFIRE PLACE, OFF WEST LAKE DRIVE
BAY HILL PLACE	WEST LAKE S/D, OFF BAY HILL, OFF FOXFIRE PLACE
WASHINGTON ROAD	HIGHWAY 104; FROM POLLARD'S CORNER TO RICHMOND COUNTY LINE
DEER RUN	LAKE SPRNGS REC. AREA; OFF LAKE SPRINGS ROAD; OFF HWY 150
DEERWOOD LANE (WEST)	DEERWOOD ESTATES, OFF WEST SIDE OF NORTH BELAIR ROAD
WATEROAK LANE	IN STALLINGS PLACE S/D, OFF STALLINGS ISLAND ROAD
STALLINGS ISLAND ROAD	IN STALLINGS PLACE S/D, OFF STEVENS CREEK ROAD; NEAR DEAD END
SPRING CREEK COURT	RHODES FARM; OFF SPRING CREEK LANE, OFF RHODES HILL DRIVE
SPRING CREEK LANE	RHODES FARM; OFF RHODES HILL DRIVE, OFF STEVENS CREEK ROAD
MILLHOLLOW LANE	IN ROSE POINTE/MILLBROOK S/D, OFF MILLHAVEN ROAD
LOST TREE LANE	IN WEST LAKE S/D, OFF WEST LAKE DR, SOUTH OF ST. ANDREWS WAY
GRANITE WAY	IN BARRINGTON S/D, OFF STEVENS CREEK RD; NORTH OF WATERVALE RD
PINEVIEW COURT	IN BARRINGTON S/D, OFF GRANITE WAY, OFF STEVENS CREEK ROAD
WEST LAKE CIRCLE	IN WEST LAKE S/D, OFF WEST LAKE DRIVE, EAST OF INVERNESS WAY
WEST LAKE DRIVE	IN WEST LAKE S/D, FROM SAINT ANDREWS WAY TO INVERNESS WAY
INVERNESS WAY	IN WEST LAKE S/D, OFF FURYS FERRY ROAD, 2ND MAIN ENTRANCE
PARK LANE	IN FOREST CREEK WEST S/D, OFF HIGHWAY 28, WEST OF BASTON RD
BAKERS FERRY TRAIL	BAKER'S FERRY S/D, OFF THE PASS; OFF FURYS FERRY RD (HWY 28)
WINDMILL LANE	IN WINDMILL PLANTATION S/D, OFF WINDMILL DR, OFF WASHINGTON RD
WILLIAM FEW PARKWAY	FROM COLUMBIA ROAD (EAST OF CHAMBLIN RD) TO WASHINGTON ROAD
SEVEN LAKES BOULEVARD	IN WEST PORT S/D; OFF EVANS TO LOCKS ROAD, EAST OF HWY 28
VILLA COURT	IN FOREST CREEK S/D, OFF VILLA LANE; OFF FOREST CROSSING
CRYSTAL COURT	IN FOREST CREEK WEST S/D, OFF VILLA LANE; OFF FOREST CROSSING
VILLA LANE	IN FOREST CREEK S/D, OFF FOREST CROSSING; OFF PARK LANE
CREEK COURT	IN FOREST CREEK WEST S/D, OFF VILLA LANE; OFF FOREST CROSSING
CRYSTAL CREEK	IN FOREST CREEK WEST S/D, OFF VILLA LANE; OFF FOREST CROSSING
CREEKWALK DRIVE	IN CREEKWALK S/D; OFF THE PASS; ACROSS FROM JOSHUA TREE VILLAS
THE PASS	CONNECTOR ROAD FROM CLARKE POINTE TO FURYS FERRY RD (HWY 28)

EL CORDERO RCH SPR RD	BAKER'S FERRY S/D, OFF BAKERS FERRY TRAIL; OFF THE PASS
HARTFORD TRAIL	RIVERSHYRE S/D, OFF PARKSIDE TRAIL, OFF RIVERSHYRE DRIVE
GLENEAGLES DRIVE	WEST LAKE TOWNHOUSES, OFF IRONWOOD DR, OFF STEVENS CREEK RD
IRONWOOD DRIVE	WESTLAKE TOWNHOUSES, OFF STEVENS CREEK RD; NORTH OF STEVENS PT
STEVENS CREEK ROAD	FROM OLD STEVENS CREEK ROAD TO RICHMOND COUNTY LINE
PRESTWICK DRIVE	WESTLAKE TOWNHOUSES; OFF STEVENS CREEK RD; NORTH OF STEVENS PT
CROWN POINT COURT	IN CROWN POINT, OFF CROWN POINT LANE, OFF CROWN POINT DRIVE
CROWN POINT LANE	IN CROWN POINT, OFF CROWN POINT DRIVE; RUNS EAST TO WEST
CROWN POINT DRIVE	IN CROWN POINT, OFF STEVENS CREEK RD, NORTH OF STEVENS POINTE
STEVENS WAY	IN STEVENS POINTE, OFF STEVENS CREEK RD, SOUTH OF BOWEN POND
BAKER WOODS TRAIL	IN BAKERS WOOD S/D, OFF OF THE PASS; NEAR FURYS FERRY ROAD END
BOULDER COURT	OFF INTERMEDIATE ROAD, OFF HIGHWAY 223 (WRIGHTSBORO ROAD)
ASHRIDGE WAY	IN BAKER WOODS S/D, OFF BAKER WOODS TRAIL; OFF THE PASS
CAMDEN WAY	HAMILTON CROSSING; , OFF QUINN DR NORTH OF HAMILTON CROSSING
SILVER LAKE DRIVE	IN SILVER LAKE S/D, OFF WASHINGTON RD; WEST OF BLANCHARD RD
HAMMONDS FERRY	IN JONES CREEK S/D, OFF JONES CREEK; OFF EVANS TO LOCKS ROAD
PELLARY PLACE	IN JONES CREEK, OFF HAMMOND'S FERRY, NORTH OF BARHAMS RIDGE
BELLERIVE CIRCLE	IN WEST LAKE S/D, OFF CARNOUSTIE DRIVE; OFF PEBBLE BEACH DR
CARNOUSTIE DRIVE	IN WEST LAKE S/D, OFF PEBBLE BEACH DR; OFF SAINT ANDREWS WAY
HIGH HAMPTON DRIVE	IN WEST LAKE S/D, OFF INVERNESS WAY; OFF FURYS FERRY ROAD
FURYS FERRY ROAD	HWY 28, FROM RICHMOND COUNTY BORDER TO SOUTH CAROLINA BORDER
FIRESTONE PLACE	IN WEST LAKE S/D, OFF FOXFIRE PLACE, OFF WEST LAKE DRIVE
FOREST CREEK WAY	IN FOREST CREEK WEST S/D, OFF HWY 28; WEST OF REED CREEK
FOXFIRE PLACE	IN WEST LAKE S/D, OFF WEST LAKE DRIVE, EAST OF INVERNESS WAY
LAKESTONE COURT	IN BARRINGTON S/D, OFF CREEK BLUFF; OFF STEVENS CREEK ROAD
MCGAHEE ROAD	OFF BLANCHARD RD; NORTH OF HEREFORD FARM RD; WEST OF EVANS
CREEK BLUFF	IN BARRINGTON S/D, OFF GRANITE WAY; OFF STEVENS CREEK ROAD
STONEBROOK DRIVE	IN BARRINGTON S/D, OFF GRANITE WAY; OFF STEVENS CREEK ROAD
GRANITE WAY	IN BARRINGTON S/D, OFF STEVENS CREEK RD; NORTH OF WATERVALE RD
BLUE RIDGE DRIVE	FROM OLD EVANS RD TO EVANS TO LOCKS RD; LAKESIDE SCHOOLS
COLUMBIA ROAD	HIGHWAY 232; FROM HWY 47 (APPLING) TO WASHINGTON RD (MARTINEZ)
INTERLACHEN COURT	IN WEST LAKE S/D, OFF INTERLACHEN DR, OFF PEBBLE BEACH DRIVE
OLD SALEM DRIVE	CONNECTOR FROM WATERVALE ROAD TO THE VILLAGE @ WATERVALE S/D
WATERVALE ROAD	FROM STEVENS CREEK RD TO HIGHLANDS LN, VARIOUS S/Ds COLLECTOR
INTERLACHEN DRIVE	IN WEST LAKE S/D, OFF PEBBLE BEACH DR, OFF SAINT ANDREWS WAY

TAB D

CRITICAL FACILITIES AFFECTED

1. Columbia County Sewage Plant at Reed Creek
Stevens Creek Road
2. Columbia County Water Treatment Plant
Hardy McManus Road
3. Columbia County Water Treatment Plant
Point Comfort Road
4. Stevens Creek Hydro Electric Plant
Savannah River
5. Greenbrier Elementary School
Riverwood Drive
6. Greenbrier High School
Riverwood Drive
7. Greenbrier Middle School
Riverwood Drive
8. Riverside Elementary School
Hardy McManus Road
9. Riverside Middle School
Fury's Ferry Road
10. Stevens Creek Elementary School
Evans-to-Locks Road

TAB E

ROUTES AND RECEPTION CENTERS

1. Residents living in or near the area east and north of Georgia State Highway 28 (Fury's Ferry Road) from Vaughn Road to the State line will travel local streets to **Evans Middle School on Washington Road** for shelter assignment.
2. Residents living in or near the area north of Evans-to-Locks Road from Highway 28 to the Evans Locks at the Savannah Rapids Pavilion, on the Savannah River will travel local streets to **South Columbia Elementary School on McCormick Road** for shelter assignment.
3. Residents living in or near the area all points east of Stevens Creek Road from the South Carolina Electric & Gas Hydro Electric Plant to the Richmond County line will travel local streets to **Martinez Elementary School on Flowing Wells Road** for shelter assignment.
4. Residents living in or near the area north of North Belair Road from Deerwood Lane to Georgia Highway 28 (Fury's Ferry Road) will travel local streets to **Belair Elementary School on Belair Road** for shelter assignment.
5. Residents living in or near the area east of Georgia Highway 104 from Hardy McManus Road to the intersection of State Highways 104, 221, and 150 (Pollard's Corner) will travel local streets to **Patriot's Park on Columbia Road** for shelter assignment.
6. Residents living in or near the area south of Georgia State Highway 221 from J. Strom Thurmond Dam to the intersection of Georgia State Highways 104 (Washington Road) and 150 (Pollard's Corner) will travel local streets to **Eubanks Blanchard Community Center on Highway 150 (Cobbham Road)** for shelter assignment.

TAB F

SHELTER LOCATIONS

DHR APPROVED SHELTERS

NO.	Facility Name / Contact Person	Location	Spaces
1	HARLEM HIGH SCHOOL Barry Hemphill – 595-9259 or Alan Griffin – 860-0637	Highway 221	400
2	EVANS HIGH SCHOOL Robert Waller – 667-9842 or Mikki Hooker – 863-8371	4550 Cox Road	400
3	EVANS ELEMENTARY SCHOOL Amy Wright – 855-6106 or Virginia Beale – 863-0911	628 Gibbs Road	350
4	GROVETOWN ELEMENTARY SCHOOL Joan Moore – 736-7286 or Janice Allen – 667-9774	300 Ford Avenue Grovetown	350
5	NORTH COLUMBIA ELEMENTARY SCHOOL Linda Moehlman – 541-1223 or Dana White – 541-1133	2874 Ray Owens Road	350
6	COLUMBIA MIDDLE SCHOOL Donna Anderson – 541-1252	6000 Columbia Road	350
7	HARLEM MIDDLE SCHOOL Jeffrey Schlichter – 556-5990	375 West Forest Street	350
8	NORTH HARLEM ELEMENTARY SCHOOL Lisa Soloft – 556-5995	525 Fairview Drive	350
9	WESTMONT ELEMENTARY SCHOOL Dr. Sandra Black – 863-0992	4558 Oakley Pirkle Road	350
10	POWELL BAPTIST CHURCH Randall Whitaker – 556-3771	Appling Harlem Hwy Harlem	60
11	MARVIN UNITED METHODIST CHURCH Kevin Lobello – 863-0510	Wheeler Road	200
12	LEWIS MEMORIAL UNITED METHODIST Pierce Norman - 863-6795	Hereford Farm Road	80
13	PATRIOT'S PARK Charlie Beale or Stacie Adkins – 868-3458	Columbia Road Grovetown	450
	TOTAL DHR APPROVED SHELTER SPACE		4,035

APPENDIX A

ARRIVAL AND PEAK TIME FOR FLOOD WATER

1. J. Strom Thurmond Dam failure or if emergency drawdown is equal to dam failure, then there is no need for emergency drawdown:

<u>LOCATION</u>	<u>ARRIVAL TIME</u>	<u>FLOOD PEAK</u>
Lloyd Creek, River Mile 236.09 1.67 miles from Thurmond Dam	30 Minutes	6 Hours
Kiokee Creek, River Mile 234.62 3.19 miles from Thurmond Dam	1 Hour	7 Hours
Betty's Branch, River Mile 232.81 5.06 miles from Thurmond Dam	1 Hour, 20 Minutes	7 Hours
Germany Island, River Mile 230.94 6.96 miles from Thurmond Dam	2 Hours	8 Hours
Jones Creek, River Mile 227.21 10.78 miles from Thurmond Dam	2 Hours, 50 Minutes	8 Hours
Stevens Creek, River Mile 225.31 12.47 miles from Thurmond Dam	3 Hours, 40 Minutes	11 Hours

2. With failure of Hartwell, Russell, and Thurmond Dams:

<u>LOCATION</u>	<u>ARRIVAL TIME</u>	<u>FLOOD PEAK</u>
Lloyd Creek, River Mile 236.09 1.67 miles from Thurmond Dam	1 Hour, 30 Minutes	28 Hours
Kiokee Creek, River Mile 234.62 3.19 miles from Thurmond Dam	2 Hours, 5 Minutes	28 Hours
Betty's Branch, River Mile 232.81 5.06 miles from Thurmond Dam	2 Hours, 30 Minutes	30 Hours
Germany Island, River Mile 230.94 6.96 miles from Thurmond Dam	3 Hours, 25 Minutes	30 Hours
Jones Creek, River Mile 227.21 10.78 miles from Thurmond Dam	5 Hours, 15 Minutes	31 Hours
Stevens Creek, River Mile 225.31 12.47 miles from Thurmond Dam	6 Hours, 40 Minutes	33 Hours

APPENDIX B

INUNDATION MAP

THE FULL COLUMBIA COUNTY INUNDATION MAP IS ENCLOSED IN THE BACK POCKET OF THIS PLAN.